

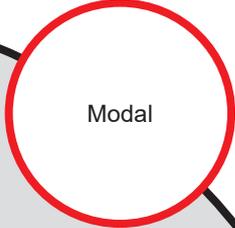


Caltrans Division of Research,  
Innovation and System Information

# Research



# Results



Modal

## The Purpose, Function, and Performance of Streetcar Transit

This task is to better understand the purpose and evaluate the performance of streetcar development in select U.S. cities.

### WHAT IS THE NEED?

The streetcar has made a remarkable comeback in US cities after decades of perceived technological obsolescence. Streetcars presently operate in regular year-round revenue service in about ten cities, and dozens more cities are building or planning their own streetcar lines. Streetcars have reappeared in cities for a variety of reasons, including their relatively low cost and smaller urban footprints compared to light rail transit, their believed link to downtown redevelopment, and the active promotion of federal officials, planners, transportation consultants, and other constituencies. Despite their increased popularity as urban transit projects, there is remarkably little research that documents how these transit investments function and perform. This research sought to fill this gap in our knowledge of the streetcar's function and performance as a transit investment.

There was a need for this research in order to provide federal (US DOT and FTA), state (Caltrans), and local/regional policymakers and planners with specific recommendations to inform better transit planning approaches and more effective transit decision-making around streetcar investments and thus contribute to the development and operation of transit investments that are more effective in carrying transit riders and both fiscally and economically sustainable in today's resource-limited transit fiscal environment.

The work proposed here also relates to FTA strategic goals in the areas of economic competitiveness and livable communities, which are also priorities for Caltrans. With respect to economic competitiveness, the research contributed to documenting best and new practices in transit systems operation and service planning, better understanding of the role of service availability

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**Project Title:**

The Purpose, Function, and Performance of Streetcar Transit

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Caltrans provides a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability.

levels and impacts on public benefits and ridership, and documenting best practice and more effective approaches to transit operations and management. With respect to livable communities, the research contributed to improving the performance of transit in the areas of transit access, social equity, and mobility.

## WHAT WAS OUR GOAL?

This research entailed a mixed-methods investigation of streetcars operated in five U.S. cities in year-round, daily revenue service to better understand their purpose, their function within their local transit systems, and their performance as transit investments, in order to obtain lessons that can inform more effective planning and policy decisions in all cities contemplating (or already operating) streetcar transit technology. The research has produced a final research report that documents the research effort, its findings, and the team's specific recommendations.

## WHAT DID WE DO?

The research examined the modern streetcars in place in Little Rock, Memphis, Portland, Seattle, and Tampa in order to better understand the purpose of streetcar development in these cities, the function the streetcar serves in the local transit system, its ridership and service productivity as a transit mode, and how planners, elected officials, and other key local actors assess the overall performance of the streetcar. The primary emphasis of the research was on the transportation role and transit performance of the streetcar, as opposed to its possible redevelopment or quality of life effects.

The study began with a background literature and document review on the streetcars in each of the case cities. The team then gathered data on

ridership, service, and other transit performance metrics from national and local sources. The team then analyzed the literature and data to generate questions for one-hour key informant interviews with developers, business leaders, transportation professionals, and other key actors in each of the cities. The interviews provided the team with an understanding of local goals for the streetcar and an assessment of goal attainment. The lessons derived from each of these analyses then led to the final report findings and recommendations.

## WHAT WAS THE OUTCOME?

The authors learned that the streetcar's primary purpose was to serve as a development tool, a second objective was to serve as a tourism-promoting amenity, and transportation objectives were largely afterthoughts except in Portland, and to a lesser degree, Seattle. The authors learned that Portland was by far the standout transportation performer among the cities, with the highest ridership, the most productive service, and among the most cost effective service. By contrast, Little Rock and Tampa emerged as the poorest performers. Portland was the city whose streetcar was planned and operated closest to the ideal suggested by the literature with respect to alignment location, transit network coordination, fare policy, service policy, and the rider market that is served.

The research findings suggest that planners and policymakers should think very carefully about the purpose streetcar development when making decisions about alignment, service levels, fare policies, and level of coordination with other transit services. If the streetcar is supposed to play a transportation function, these decisions should be made in ways that increase the streetcar's rider appeal. Many advocates point to Portland's experience, and then proceed as if it could be easily replicated elsewhere. But the



evidence suggests that Portland's experience is the result of a unique combination of external factors (population and employment patterns, real estate market conditions) and local decisions (development policy, financial decisions, other public investments, alignment location and length, operation decisions, fare policy) that may or may not be applicable elsewhere. Finally, communities must think much more carefully about potential long-term consequences of streetcar decisions. The opening of a streetcar might necessitate later cuts in bus services, for example, when budgets tighten. Additionally, the decisions made early on about seemingly trivial things, such as the type of vehicle to operate (modern, replica, or vintage), can have significant consequences for operations and finances later on.

## WHAT IS THE BENEFIT?

Regional transit agencies, city government and metropolitan planning authorities, and state and federal transportation departments, were interested in ways to improve transit systems and increase their use. Transit managers and system administrators may gain insights into the role played by planning decisions in influencing streetcar performance. Local, state, and federal officials will be better informed as to the costs and benefits of making these investments.

The research lessons highlighted the importance for planners and policymakers in California and elsewhere to think very carefully about the purpose streetcar development when making decisions about alignment, service levels, fare policies, and level of coordination with other transit services. If the streetcar is supposed to play a transportation function, these decisions should be made in ways that increase the streetcar's rider appeal.